

SPECIFICATION AMENDMENT

On page 1, directly after "BACKGROUND OF THE INVENTION" insert the following section.

Cross Reference to Related Application

This patent application is a division of prior application 10/384,500 filed 3/7/2003 and issued 2/15/2005 as patent number US 6,856,221 B1 by the same inventor.

SPECIFICATION AMENDMENT

On page 5, amend the paragraph starting at about line 15 as shown:

For the active push mode, the slug 34 is threaded to a location on the armature shaft 32 that is proximate to the rear coil end 24. When the coil 20 is at rest (not-energized), the slug 34 is urged by the spring 36 so that the outer end 56 is pushed into the through hole 52, thereby passively pulling the object 12 toward the solenoid 10. In a preferred embodiment, for a coil 20 having a length between the rear coil end 24 and the front coil end 26 of about one inch, the outer end 56 protrudes about 0.150 inches through the rear coil end 24 into the through hole 52. When the coil 20 is energized, the slug 34 is drawn further into the coil 20 so that the outer end 56 is about flush with the rear coil end 24 or protrudes less than about ~~[[0.20]]~~ 0.15 inches, thereby actively pushing the object 12 away from the solenoid 10.

SPECIFICATION AMENDMENT

Bridging pages 5 and 6, amend the paragraph starting at about page 5, line 26, as shown:

For the active pull mode, the slug 34 is threaded to a location on the armature shaft 32 that is proximate to the front coil end 26. When the coil 20 is at rest (de-energized), the slug 34 is urged by the spring 36 so that the outer end 56 protrudes through the front coil end 26, thereby passively pushing the object 12 away from the solenoid 10. In a preferred embodiment, for a coil 20 having a length between the rear coil end 24 and the front coil end 26 of about one inch, the outer end 56 protrudes about 0.150 inches through front coil end 26. When the coil 20 is energized, the slug 34 is drawn further into the coil 20 so that the outer end 56 is about flush with the front coil end 26 or protrudes less than about ~~[[0.20]]~~ 0.15 inches, thereby actively pulling the object 12 toward the solenoid 10.